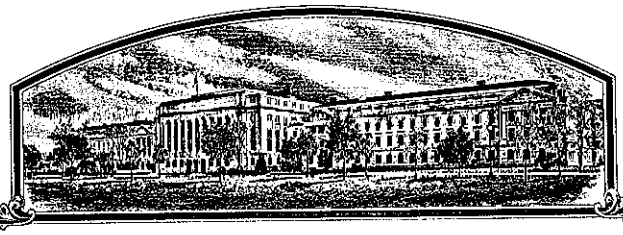
No. 8300012



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

University of Minnesota

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, [illegible]PORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT V[illegible] THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. [illegible]NITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS [illegible] CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS [illegible] THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'Simpson'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 30th *day of* December *in the year of our Lord one thousand nine hundred and* eighty-three.

Attest:

Kenneth H. Evans

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R Block

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

FORM APPROVED: OMB NO. 0581-0005

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1. NAME OF APPLICANT(S)
Minnesota Agricultural Experiment Station

2. TEMPORARY DESIGNATION
M70-153

3. VARIETY NAME
Simpson

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*
University of Minnesota
220 Coffey Hall, 1420 Eckles Avenue
St. Paul, MN 55108

5. PHONE *(Include area code)*
612-373-0751

FOR OFFICIAL USE ONLY

PVPO NUMBER
8300012

6. GENUS AND SPECIES NAME
Glycine max

7. FAMILY NAME *(Botanical)*
Leguminosae

FILING
DATE
11/3/82
TIME
9:30 [X] A.M. [ ] P.M.

8. KIND NAME
Soybean

9. DATE OF DETERMINATION
March 2, 1982

FEES RECEIVED
AMOUNT FOR FILING
$ 500.00
DATE
11/3/82
AMOUNT FOR CERTIFICATE
$ 250.00
DATE
11/22/83

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
State Experiment Station

11. IF INCORPORATED, GIVE STATE OF INCORPORATION

12. DATE OF INCORPORATION

13. NAME AND ADDRESS OF APPLICANT REPRESENATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

J.W. Lambert	Department of Agronomy and Plant Genetics	612-373-0867
J.H. Orf	University of Minnesota	612-373-0861
	1509 Gortner Avenue	
	St. Paul, MN 55108	

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. [X] Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

b. [X] Exhibit B, Novelty Statement

c. [X] Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*

d. [X] Exhibit D, Additional Description of the Variety

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)*
[X] Yes *(If "Yes," answer items 16 and 17 below)* [ ] No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
[ ] Yes [X] No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
[ ] Foundation [ ] Registered [ ] Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES?
[ ] Yes *(If "Yes," give names of countries and dates)*
[X] No

19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES?
[ ] Yes *(If "Yes," give names of countries and dates)*
[X] No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties. 1

SIGNATURE OF APPLICANT
J.W. Lambert
DATE
October 15, 1982

SIGNATURE OF APPLICANT
James H. Orf
DATE
October 19, 1982

EXHIBIT A
Origin and Breeding History of Simpson Soybeans

'Simpson' traces to the F_5 progeny of an F_4 plant selected in an F_3 progeny of an F_2 plant from the cross Steele x Hodgson. Bulked seed of the F_5 was designated II-70-153 and was used for yield-testing in F_6 (1975). Subsequent tests of strain II-70-153 were conducted in F_7 (1976) and F_8 (1977) in Minnesota. In the F_8 generation 50 typical plants were selected to initiate purification for observable traits, including reaction to race 1 of phytophthora root rot. In F_9 (1978), II-70-153 was designated M70-153 and entered in the Group 0 Uniform Regional Test. Thirty progeny rows were also grown to complete the purification process. Twenty-six of the rows appeared uniform in plant and seed characteristics. Seeds from these rows were bulked to provide breeder seed. In F_{10} (1979), M70-153 was continued in the Group 0 test, and a small increase of breeder seed was made. In F_{11} (1980) testing was continued in Minnesota and regionally, and foundation seed was produced by the Minnesota Crop Improvement Association. This seed was shared for increase in other states. In F_{12} (1981) M70-153 was approved for release as Simpson. On February 1, 1982 seed of Simpson was released to registered and/or certified seed growers in Minnesota, North Dakota, South Dakota, and Wisconsin

As originally released Simpson had a slight mixture of seeds with yellow hila. The amounts in different lots of foundation seed varied from 0.05 to 0.30 percent (from 5 in 10,000 to 3 in 1000). This mixture can be considered typical of the variety in its first distribution. Later releases of breeder seed may be free of the mixture, as a result of purification procedures.

Supplemental Statement for Exhibit A - 'Simpson' soybean
Application 8300012

The variation in hilum color indicated in the original statement is considered typical of the variety as released. Some of this variation is probably truly genetic and can be removed by additional purification procedures, but some is environmental and will undoubtedly recur in small amounts. In either case the amounts indicated are acceptable commercially and are permitted in the certification of the variety. These characteristics have been observed and evaluated over at least four generations.

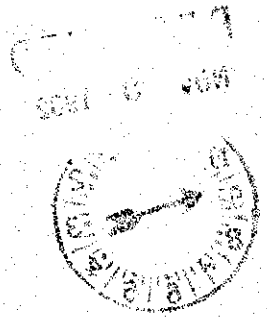
8300012

EXHIBIT B R/S 1/11/83

Data Indicative of Novelty in Simpson Soybeans

'Simpson' is most similar to 'Hodgson 78'. However, Simpson matures 4 or 5 days earlier, is about 5 inches shorter, and lodges less. The canopy of Simpson is somewhat narrower, primarily because of a narrower angle of its branches and its leaf petioles to the main stem and because of shorter petioles on the leaves. The ratio of center leaflet width to length averages higher in Simpson than in Hodson 78 (.73 versus .66), giving the Simpson leaves a broader, more rounded appearance. The stem diameter of Simpson is slightly greater than that of Hodgson 78.

The seed of Simpson are slightly smaller than those of Hodgson 78. Although both have yellow seed coats with dull luster and buff hila, the Simpson seed are more nearly round, the seed coats are slightly lighter yellow, and the hila are shorter and slightly lighter buff.



B RJS 1/11/83

Supplemental Statement for Exhibit B - 'Simpson' soybean
Application 8300012

The following quantitative data comparing 'Simpson' and 'Hodgson 78' are means of 22 tests involving 8 locations and 3 years. They are taken from summaries of the cooperative Uniform Group 0 tests, 1979-1981.

Variety	Date Mature	Lodging score	Plant height (inches)	Seed size (g./100)
Simpson	9-24	2.2	34	16.0
Hodgson 78	9-29	2.4	39	17.0

5

FORM APPROVED OMB NO. 40-R3822

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN *(GLYCINE MAX)*

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Minnesota Agricultural Experiment Station

ADDRESS *(Street and No., or R.F.D. No.; City, State, and ZIP Code)*
University of Minnesota
220 Coffey Hall, 1420 Eckles Avenue
St. Paul, MN 55108

FOR OFFICIAL USE ONLY
PVPO NUMBER 8300012

VARIETY NAME OR TEMPORARY DESIGNATION
SIMPSON

Place the appropriate number that describes the varietal character of this variety in the boxes below.

1. SEED SHAPE: [1] 1 = SPHERICAL 2 = SPHERICAL FLATTENED 3 = ELONGATE 4 = OTHER *(Specify)*

2. SEED COAT COLOR: [1] 1 = YELLOW 2 = GREEN 3 = BROWN 4 = BLACK 5 = OTHER *(Specify)* ____ **SHADE:** [2] 1 = LIGHT 2 = MEDIUM 3 = DARK

3. SEED COAT LUSTER: [1] 1 = DULL 2 = SHINY

4. SEED SIZE [16 0] GRAMS PER 100 SEEDS

5. HILUM COLOR: [1] 1 = BUFF 2 = YELLOW 3 = BROWN 4 = GRAY 5 = IMPERFECT BLACK 6 = BLACK 7 = OTHER *(Specify)* ____ **SHADE:** [2] 1 = LIGHT 2 = MEDIUM 3 = DARK

6. COTYLEDON COLOR: [1] 1 = YELLOW 2 = GREEN

7. LEAFLET SIZE *(See Reverse)*: [2] 1 = SMALL 2 = MEDIUM 3 = LARGE

8. LEAFLET SHAPE: [1] 1 = OVATE 2 = OBLONG 3 = LANCEOLATE 4 = ELLIPTICAL 5 = OTHER *(Specify)* ____

9. LEAF COLOR *(See reverse)*: [2] 1 = LIGHT GREEN 2 = MEDIUM GREEN 3 = DARK GREEN

10. FLOWER COLOR: [2] 1 = WHITE 2 = PURPLE 3 = OTHER *(Specify)* ____

11. POD COLOR: [2] 1 = TAN 2 = BROWN 3 = BLACK

12: POD SET: [1] 1 = SCATTERED 2 = CONCENTRATED

13. PLANT PUBESCENCE COLOR: [1] 1 = GRAY 2 = BROWN 3 = OTHER *(Specify)* ____ **SHADE:** [2] 1 = LIGHT 2 = MEDIUM 3 = DARK

14. PLANT TYPES *(See Reverse)*: [3] 1 = SLENDER 2 = BUSHY 3 = INTERMEDIATE

15. PLANT HABIT: [2] 1 = DETERMINATE 2 = INDETERMINATE 3 = OTHER *(Specify)* ____

16. HYPOCOTYL COLOR: [2] 1 = GREEN 2 = PURPLE

17. SEED PROTEIN: [?] 1 = A 2 = B

18. NUMBER OF DAYS TO FLOWERING *(Place a zero in first box (e.g. [0 9]) when days are 9 or less.)* [4 5]

19. MATURITY GROUP: [2] 1 = 00 2 = 0 3 = I 4 = II 5 = III 6 = IV 7 = V 8 = VI 9 = VII 10 = VIII

20. SIZE OF 10 DAY OLD SEEDLING GROWN UNDER CONSTANT LIGHT *(Growth Chamber)* **AT 25° C.** *(Place a zero in first box (e.g. [0 2]) when size is 9 mm. or less.)*

[0 5 2] MM. LENGTH OF SEEDLING
[1 9] MM. LENGTH OF COTYLEDON
[1 1] MM. WIDTH OF COTYLEDON

21. DISEASE: *(Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)*

[0] BACTERIAL PUSTULE	[0] SOYBEAN CYST	[0] DOWNY MILDEW	[0] PURPLE STAIN	[0] POD AND STEM BLIGHT	[0] ROOT KNOT
[0] FROGEYE	[0] STEM CANKER	[2] PHYTO-PHTHORA	[1] BROWN STEM ROT	[0] TARGET SPOT	[0] BROWN SPOT
[0] BUD BLIGHT	[0] WILDFIRE	[0] RHIZOCTONIA ROT	[ ] OTHER *(Specify)* ____		

6

FORM LPGS-470-2 (5-78) (Formerly Form GR-470-2, which may be used)

8300012

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant shape	Hodgson	Petiole angle	Hodgson
Leaf shape	"	Seed size	Evans
Leaf color	"	Seed shape	Hodgson
Leaf surface	"	Seedling pigmentation	Hodgson

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY:

VARIETY	NO. OF DAYS TO MATURITY	LODGING SCORE	PLANT HEIGHT	LEAF SIZE		CONTENT		AVERAGE NO. OF PODS PER PLANT	IODINE NO.
				Width	Length	Protein	Oil		
Submitted	132	2.2	34			41.4	19.3%		
Name of similar variety Evans	130	2.1	37			41.2	19.3		

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for completing this form:

1. Scott, Walter O. and Samuel R. Aldrich, 1970, Modern Soybean Production, The Farmer Quarterly.
2. Norman, A. G., 1963, The Soybean: Genetics, Breeding, Physiology, Nutrition, Management.
3. McKie, J. W., and K. L. Anderson, 1970, The Soybean Book.

LEAF COLOR: Nickerson's or any recognized color fan may be used to determine the leaf color of the described variety. The following Soybean varieties may be used as a guide to identify the colors listed on the form.

COLOR	VARIETY
Light Green	"Ada"
Medium Green	"Wilkin"
Dark Green	"Swift"

LEAF SIZE: The following varieties may be used as a guide to identify the relative size leaves.

SIZE	VARIETY
Small	"Amsoy"
Medium	"Bonus"
Large	"Anoka"

PLANT TYPE: The following varieties may be used as a guide to identify the plant type.

TYPE	VARIETY
Slender	"Vansoy"
Intermediate	"Wirth"
Bushy	"Adelphia"

7

EXHIBIT ~~B~~ D R/S
Botanical Description of Simpson Soybeans

'Simpson' is an indeterminate Group 0 variety of soybean (Glycine max, L. Merr.). The plants are medium in height with 15 to 18 nodes on the main stem, and they produce a canopy of medium width. The leaves are dark bluish-green at full canopy with well defined light green veins. The seventh, eighth, and ninth trifoliate leaves are commonly largest. The leaflets at these nodes are ovate in shape but relatively broad for their length. The ratio of breadth to length of the center leaflets ranges from .7 to .8. Petioles range from 15 to 20 cm in length, and petiolules of the center leaflet range from 3.5 to 4 cm in length. On upright plants, the petioles at the middle nodes are set at about a 30° angle to the main stem. Stem diameter is medium, ranging from 9 to 13 mm at the first trifoliolate node. The flowers are medium in size and purple. Commonly there are two sessile flowers and one short raceme with two to five flowers at each of the nodes in the middle portion of the plant. At full maturity the stems have a light brown appearance, and the pubescence is gray. The general appearance is a medium gray. The seed coats are yellow with a dull luster, and the hila are buff.